

*Virginia
Wildlife*

SEPTEMBER 1969

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Virginia's Wildlife and Related Natural Resources
and to the Betterment of
Outdoor Recreation in Virginia*

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COMMONWEALTH OF VIRGINIA

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SEPTEMBER

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COVER: The shy and furtive bobcat is native throughout Virginia, and indeed throughout the United States, but because it is a creature of dense cover and rough terrain it is most likely to be encountered either in the great hardwood swamps or along heavily wooded watercourses where streams flow through gorges and between steep, rocky hillsides. Our artist: Charles R. Sauber, Coral Gables, Florida.

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EDITORIAL

Wrapped Up In Red Tape

SPORTSMEN are about to experience the joys and sorrows of their first fall calendar of hunting seasons under the Federal Gun Control Act of 1968 and the monstrous bureaucratic ammunition sales regulations and "back door gun registration" which the Internal Revenue Service came up with, allegedly in implementation of that Act.

The regulations did not take effect until last December 16, by which time remaining hunting days for most species were limited and most sportsmen had enough ammunition on hand to see them through. That is hardly the case in September, 1969. Our first major game season is on mourning doves, and one thing that dove hunting requires in abundance is ammunition. Bag limits are liberal and the birds present just about the most difficult scattergun targets of all. Ammunition will be in great demand the first week of September, and weekly thereafter so long as the season is open and there are dove concentrations around the grain fields.

Hunters are no more inclined than anyone else to purchase supplies before the need for them is fairly immediate, and final preparations for a dove hunt almost always include the purchase of a box or two of shells. In fact, with hunting hours starting at noon daily, it is the practice of many dove hunters to replenish their supply of dove loads by a stop at the store on the way to the dove field. With the paper work now involved in the simple purchase of a box of shotgun shells, such a stop could well cost the hunter half to three quarters of an hour, if a couple of carloads of like-minded nimrods should make the same stop at approximately the same time. If such traffic jams at shotgun shell counters across the land should lead to protests that finally are heard in Congress, this backlash against the Gun Control Act will not have been entirely unexpected.

The law requires that dealers record the name, age, and address of purchasers of firearms and ammunition. The implementing regulations go much farther and require the dealer to record the date of purchase, manufacturer's name, caliber or gage, quantity purchased, name of purchaser, his date of birth, address, and also the type of personal identification which the dealer required the purchaser to show. This is a lot of time-consuming red tape, especially when there is a brisk demand for ammunition with a single clerk and record book to handle it. Some sportsmen are going to have additional difficulties if they underestimate the number of shots they will get or overestimate their prowess as marksmen. Those who run out of shells during a busy afternoon may find that they can no longer get instant replenishment from a nearby country store or back road filling station. Because of the responsibility and inconvenience imposed upon them by the need to make and maintain records, many of the small dealers, who in the past have kept a little ammunition on hand primarily for the convenience of hunters temporarily in distress, will not have that ammunition on hand this fall. Some hunters will discover it is a long way from the field of action to the nearest full-fledged sporting goods store.

Sportsmen have been accused of being unwilling to accept "a little inconvenience" to themselves as the cost of preventing crime. This

(Continued on page 22)

LETTERS

ENCLOSED you will find a photograph I shot on the night of August 4. I have seen many deer kills on the highways but none as unusual as this. This accident brings to mind the 1,637 deer killed on Virginia highways in 1968.

In Rockbridge County with its large deer population I have yet to see signs warning motorists of prime deer crossings.

Michael Reilly
Harrisonburg



According to the news story which accompanied this photograph when it appeared in the Harrisonburg Daily News-Record the deer was seen standing beside the highway and as the car approached she bounded in front of it, was caught in mid-air by the windshield, and was cut in two. Her rear portion was left on the road as the driver, Mr. Richard Lee Billings of Martinsburg, drove approximately 500 feet with the deer's head in his lap. Every deer-car collision that occurs, when any appreciable speed is involved, is a grave threat to everyone in the vehicle. "Deer Crossing" signs may help warn motorists in some places, but most deer that cross highways do so where the signs aren't. Watch carefully for deer along the highways, and when you see one, SLOW DOWN!—Ed.

THE accompanying picture is of Ollie Newell, graduate student at the Wildlife Unit here, and the remains of an immature male "critter" shot in Tazewell County and referred here by District Game Biologist Charles H. Peery. The family, consisting of a mother and six young, have been causing damage as sheep killers since the summer of 1968. The "critter" has been identified as probably a mixed breed dog, on the basis of molar measurements which were found to correspond to those typical of dogs but not of coyotes.



Henry S. Mosby, PhD
Blacksburg

COTTONTAIL OF THE SKY

By BILL COCHRAN
Roanoke



Across the field is a line of trees, mostly dark green oaks, and nearby a pond glitters in the sunlight. Nothing is moving, save the breeze and a lone buzzard riding the air currents on motionless wings.

The man appears somewhat out of place in looks, mood and action. He wears a camouflage suit, a battered hat and sunglasses. He sits upright on a small folding stool. His tense attitude is in contrast with the lushness and serenity of the surroundings.

The man is a dove hunter. We call him a hunter for the lack of a better term. He is not hunting like the grouse or

BENEATH the sheltering branches of a pine tree which is swaying gently in a balmy breeze sits a man. On his lap rests a shotgun.

Before him stretches the ragged remains of a corn field. A few days before, rigid rows of corn had stood tall in the field, then along came mechanized cutters and they rumbled about like giant locusts chewing up fodder, ears and all. What is left now are a few stubs, and among them are scattered grains of corn which escaped the fumbling mechanical fingers to sparkle golden on the ground.

Some hunters place decoys on fenceposts to help lure doves within range.



Dove hunting is more a matter of waiting and shooting than actually hunting.

quail hunter. He has come to shoot.

Actually, well before the season began, he did his hunting. He drove out into a rural, agricultural area, with an uncased pair of binoculars on his car seat, and for several hours pinpointed movements of doves.

Satisfied that he had found a good spot, he contacted the landowner and gained permission to hunt when the season began. He had not waited for opening day to do this, and the landowner had respected his sincerity. In fact, a new and close friendship was being cultivated.

Now it was time to reap the harvest of his work. It is a hot afternoon. Sweat trickles down his back. Insects buzz and



These small gray birds have become America's No. 1 game species.

whine around his face. The doves, having filled their craws with corn and grit and satisfied themselves with pond water, are taking a midday siesta in the line of trees across the corn field.

But as the afternoon moves on, they begin to grow restless. There is a slash of movement. A dove is on the wing. Some begin flying from one tree to another. One lights on a fencepost.

The hunter grips his shotgun a little tighter. His heart beats faster. The hurried, haggard work day week is forgotten.

Suddenly, there is a blur of movement across the sky. A dove! A single, coming straight as a bullet. The hunter scrambles up onto one knee and tries to get his gun on the speeding target. When he squeezes the trigger, he knows he's all wrong. He didn't think about leading. He shot behind the bird.

But when the gun kicks and the report splits the tranquil setting, the dove appears to fall. The man's heart leaps up as if to catch it. Then, almost sickening, the hunter sees that the bird is not falling at all, only dipping sharply in flight. Rising again, the dove puts on more speed and zips out of range. It's an old trick.

The man lowers his gun, loads a fresh shell and sits even more alert now. He smiles as he thinks back on the action of the dove. He remembers that he forgot to shoot a second or third time. It won't happen again, he promises.

He doesn't have to wait long for another chance. A flock of five speeds his way. He remembers his mistake of the first shot. He picks one of the hurtling gray-brown figures and leads it well—then even doubles his lead.

BOOM! The bird appears to explode. Feathers are spewed into the air and begin to twirl downward. The dove loses

his grip on the sky, falls end over end and makes a loud thud on the ground.

The hunter keeps his eye on the spot and quickly walks out to retrieve his game, the first of the season. It is soft and warm and small in his hand.

He examines the loose-feathered creature, with its long scimitar wings and spear-shaped tail. No wonder it is so fast, it is one of nature's most streamlined flying mechanisms. No wonder it is so difficult to hit; its vital area is smaller than a billiard ball.

The man slips back to his stand, picks up his gun again and watches the deep blue sky. He smiles inwardly. Occasionally he hears the guns of his companions. They are scattered around the edge of the field and he eyes them not as competitors, but as being beneficial to him. More than once, the other hunters have kept the doves on the move which has resulted in more targets for all. One hunter even brought along several dove decoys which he placed on a fencerow, and another brought two American water spaniels to retrieve his downed birds.

A few years back, the man recalls, dove hunters in this part of Virginia were almost as rare as elephant hunters. Now dove hunting is likely the fastest growing gunning sport. The mourning dove has become the cottontail of the sky, America's No. 1 game bird.

Before the afternoon is over, the man has many opportunities to shoot, more than he will experience in a whole season of hunting several other species of game.

His gun barrel grows hot. His ears ring. Near sundown, he reaches for another shell and is surprised that none is left. Several soft birds lay in a pile nearby. He counts them—almost a limit. It has taken him five shots for each kill. Not good, but then, for doves, certainly not bad.

The man picks up his gear and his game and heads for home. It has been a refreshing day. Such is dove hunting.

Spaniel retrieves downed bird to happy hunter.



The DOVE Experiment 1967-71

By JACK V. GWYNN
Game Research Biologist

VIRGINIA dove hunters are involved in a research experiment. This year's increased daily bag limit is part of it. It began in 1966. The experiment is unique in many ways. Probably never in the history of wildlife management has so much intensive cooperative effort been devoted to a single research project for a single species. Probably never has so much attention been given to a species without first some crises occurring to the population to catalyze research activities in this magnitude.

The Management Goal

Few dove hunters will be surprised to learn that more doves are harvested (and utilized) by more hunters enjoying more hours of hunting recreation than any other species of migratory game in the Southeast. To put it another way, the mourning dove is United States' most important migratory game bird. The dove is also watched and enjoyed by non-hunters who take an equal interest in its well-being. The goal for management then should be to maintain mourning dove populations in a healthy and productive state which will provide continued good hunting and the other kinds of enjoyment of the species that benefit man.

Some Management History

Effort, money and time has been spent in developing dove management techniques and without this foundation the present investigation would not be possible. Regulations have been restricted or relaxed depending on comparisons of results obtained from a system developed to detect changes in spring breeding population levels. This system was developed, then established nationwide in 1953, and efforts have been made to continue to improve it since then. The



Commission photo by Kesteloo

For the past fifteen years changes in dove hunting regulations have been tied closely to measured changes in spring breeding populations.

system depends upon a large number of *call count routes* (doves have a distinctive mating call) established and operated under a precise standard of procedure. The counts are made by state, federal and private wildlife personnel who census each route once a year in calm, mild, rainless weather between May 20 and June 10. Three minute stops are made at one mile intervals along each of the 20 mile routes to listen for male dove mating calls. Counts begin one-half hour before sunrise and continue until the route is completed. The total number of doves heard calling, the total number of calls, and the number of doves seen are recorded on a form designed for the survey.

The BSF&W's (Bureau of Sport Fisheries and Wildlife) Migratory Bird Populations Station is responsible for tabulation, analysis and reporting of this data. Virginia has 11 of these routes and there are over 300 routes in the Eastern Dove Management Unit which is comprised of 27 states, those east of the Mississippi River and Louisiana.

Dove regulation changes have been closely tied to the results of this call count survey for several reasons. One is that no other system existed for obtaining information on the status of the dove prior to 1967. Another reason is that the call count survey is a standard survey from which breeding population levels can be estimated objectively. A third is that the data from the call count routes can be tabulated, analyzed and reported in time for the annual dove regulation meeting in Washington, usually held around June 22. The many ad-

(Continued on page 20)

This pair of nestlings is one brood of several which, if all went well, the adult pair raised during the summer. During the next two years an effort will be made to determine whether changes in hunting regulations have a measurable effect upon overall annual breeding productivity.

Commission photo by Kesteloo



Let's Cook

Small Game Birds

By MARJORIE LATHAM MASSELIN
Richmond

AND let's start with dove. Pigeons have been domesticated since the time of Solomon the Wise. Not all of them were destined for the dinner table, of course, but the squab has always been highly thought of by those who enjoy good food. In Colonial Virginia, no well-managed estate was without its dove cote somewhere in the gardens, and the wild pigeon was too much a favorite of the huntsman.

For Southern sportsmen now, the mourning dove is the favorite. Fortunately, our conservation practices are better now, and these little "gray ghosts of the cornfield" are still abundant.

Dove is one of those game birds which should be eaten fresh. It is not hung to season. Dove can be quick frozen with good success.

Once plucked and drawn, the ideal way to treat these good tasting little birds, is to split them up the back, sprinkle with salt and pepper, baste liberally with butter and grill them over a hot charcoal fire. They will cook more evenly if they are flattened a bit first. Usually the hand brought firmly down on the breastbone is quite sufficient to do this, although some of the old recipe books advocate flattening with a mallet or the broad side of a cleaver. It really is not necessary to get that violent. Keep them just barely underdone and serve them, nicely browned with plenty of butter, on a slice of dry toast.

A few mushrooms fried in the same butter make a pleasant accompaniment. *If you know what you are doing* and have the energy you can probably pick enough wild mushrooms to serve with your bag of dove. Wild mushrooms with wild game is just about the last word in enjoyment of Nature's Bounty. But never eat wild mushrooms unless you are sure you can identify the non-poisonous varieties.

Just because it is seldom done is no reason to assume that dove is not as good roasted as grilled. The European Lark, which sadly we do not have here, is often baked inside a potato. It will be necessary to match the potatoes and doves rather carefully for size, but it can certainly be done. Since we are making an Americanization we may as well go all the way and use sweet potatoes instead of Irish potatoes. Select a fine one for each bird to be cooked.

Doves a la Pere Philippe

To save space which will be important here, cut the backbone out completely. Salt and pepper each dressed dove and insert a fine white mushroom cap in the cavity of each bird. With it, tuck in a piece of butter, then gently reshape the bird.

Slice off a "top" from each potato, holding it lengthwise, and trim off the woody ends. Using a French ball cutter, hollow out each potato until the cavity formed will comfortably accommodate a dove.

The slices cut from the potato may be hollowed out somewhat, buttered and fitted on top as a cover for the first part of the cooking, or they can be browned separately and used as a cover for serving this "casserole." In this way, the dove and the mushroom inside it are assured of cooking all the way through. The potato-slice cover is naturally removed during the last minutes and the bird basted well to brown evenly. However, since the mushroom is in there primarily for flavor and not necessarily to eat, I prefer to roast the birds uncovered from the outset. Simply brush each bird and the outside of each potato with melted butter and bake at 375 degrees, basting every five minutes or so, until the doves are browned and glistening and the potato is well done. It is wise to preheat the oven.

Serve with a crisp salad and broiled tomatoes.

* * * * *

The plump little sora makes a very fine roast. Like quail, rail and the doves we just talked about, sora, too, are cooked very fresh. After dressing the birds, season inside and out with salt and pepper and line them up in a roasting pan. They are not trussed.

Scald some nice fresh oysters just to plump them. Allow one or at most two small oysters per bird. Pop the oyster into the cavity of each sora, brush liberally with butter and roast in a moderately hot oven, basting every five minutes or so with more melted butter, until the birds are beautifully browned and crisp.

Deglaze the roasting pan with a little Madeira. Serve the birds on dry toast with a spoonful of the wine sauce poured over.

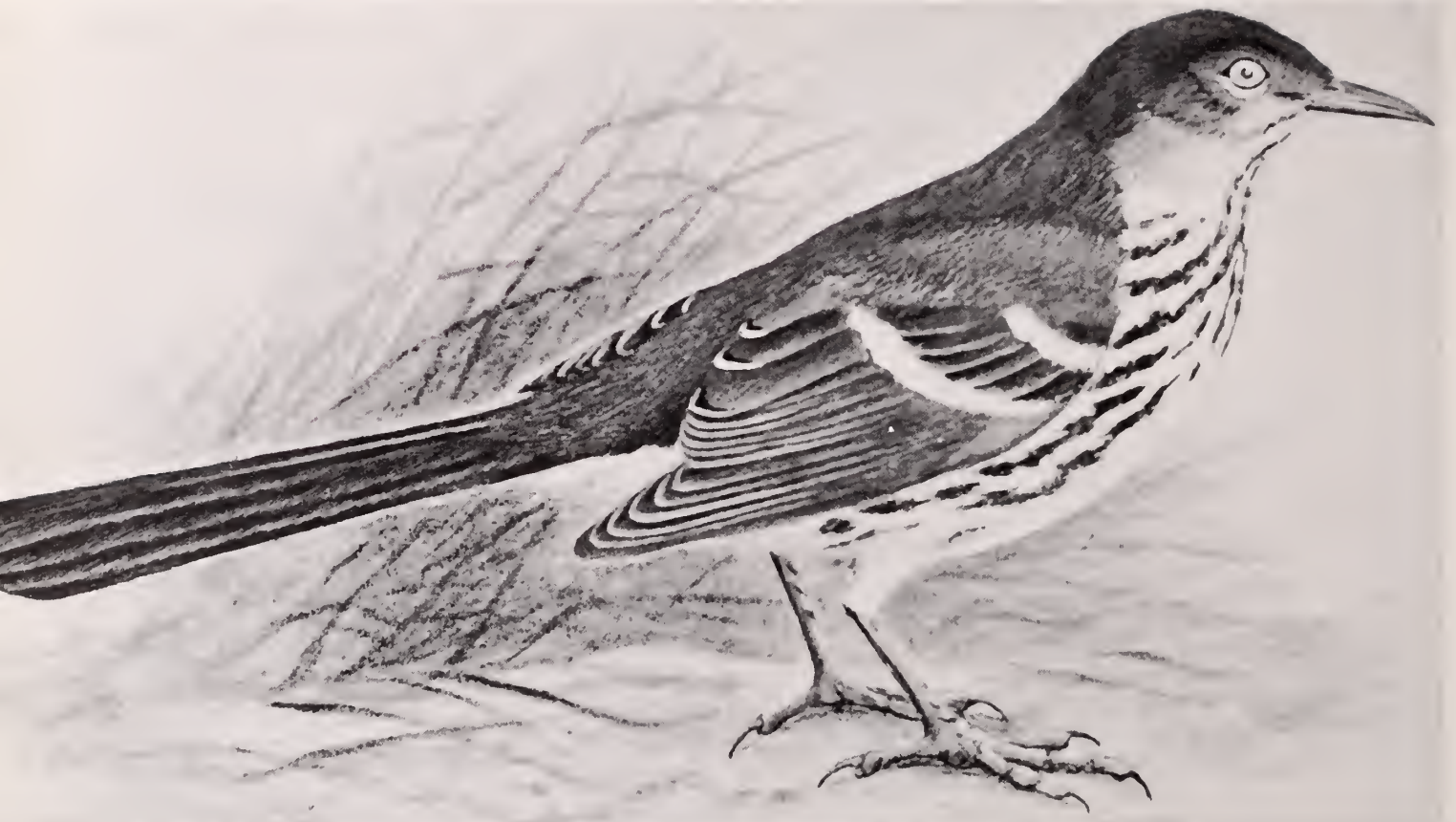
Another good way to do sora and also rail, is to crush up a few juniper berries and use this along with the salt and pepper seasonings. Then impale them on a spit, as many as can be fitted on at one time, and roast over a well banked charcoal fire until they reach the point of perfection that suits your taste. They will need to be basted as they roast. Use ordinary melted butter for this. If the grilling arrangements permit, it is a good idea to take some heavy aluminum foil, double it, and then fold up the corners to make a long, narrow trough. Lay this in front of the coals and directly under the birds so that it catches all the drippings. With a long handled brush, the chief cook can keep mopping these up to baste the birds. They will also brown better and taste better for the effort. Incidentally, this arrangement helps to eliminate the horror of having basting fat drip onto a hot coal, flare up and flame the birds to a cinder. It is difficult to fit such a trough on a round grille because of that center post coming up, but it can be done.

As the birds are cooked, slip them off onto a hot platter lined with toasted bread. Give them a last brush over with melted butter and dig in while the next spit-full cooks. This is strictly informal dining, but the birds do not wait well, and it always seems a shame to let them dry out while being kept hot.

With a feast of this kind, the main thing is to have plenty of birds and to keep them coming. The less served with them, the better. Plenty of crisp buttered toast or home made potato chips and perhaps a basket of ripe red little cherry tomatoes to be eaten whole are quite sufficient.

Thrasher Pantomime

By JOYCE FITCHETT RUSSELL
Kilmarnock



THE early afternoon was perfect for sunbathing. The neighborhood was quiet, the sun hot, the chaise lounge comfortable. Close by were field glasses for bird watching, idle as their owner dozed. A fly crawled, tickling an arm.

From the back hedgerow an aloof, yellow-eyed brown thrasher glided, intent upon her search for insects. She reached the iris bed and disappeared under the foliage. In indolent succession came three more birds, identical to the first. The sunbather was instantly alert. This must be a family. Out of the security of the tall spears, a bird would occasionally emerge to dart for a bug. On the other side one would scatter trash to reach a grub.

Usually skittish around people, the thrashers steadfastly ignored the sunbather, even while the chaise lounge was slowly moved to a sunnier location nearby.

Closer they came to the garden pathway. Suddenly the mother flew up, momentarily balanced on an iris leaf, plucked a wild strawberry and landed again where she had

been. To her throaty, barely audible, chicken-like call, one of the babies came running, and, silently fluttering, was fed. She found another bright red berry and allotted that one to a second baby. The first retired from the rivalry, sank onto the shady earth and gave himself a thorough dust bath and careful preening. Then he tucked his head into his feathers and went to sleep.

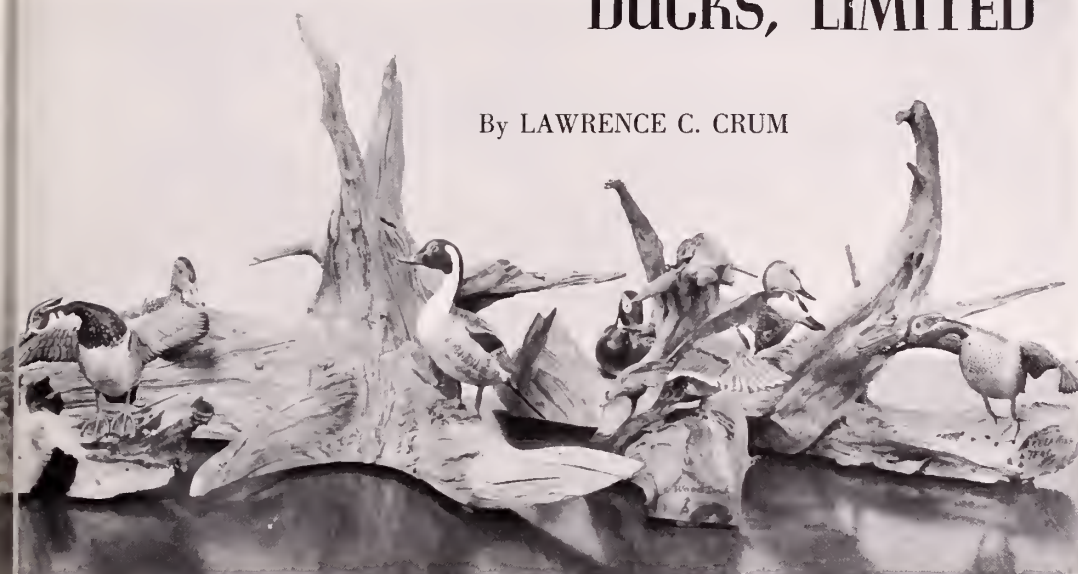
While the other two youngsters took forays nearby, the mother strolled around the house to the front yard. One baby ventured over to the storage house and combed the dark, damp area under it. His sibling made another quest into the iris bed.

Perhaps an hour passed with the bird watcher only a few feet away. Finally the mother, flying low, came back to her brood. The napper awoke and the family wended its way slowly back to the hedgerow.

Silently they had come and gone, leaving behind a memory of a golden-eyed, russet bird with a crimson berry in her bill, teetering on a sea-green spike.

DUCKS, LIMITED

By LAWRENCE C. CRUM



Miniature waterfowl carvings, one-sixth actual size.



Roy Murphy with pintail carvings.

AMONG the outdoorsmen of the Old Dominion is at least one nimrod whose love of Virginia wildlife is expressed whether or not he is afield. Roy L. Murphy of Newport News may be seen at home, work, or at nearly any art exhibit in the Tidewater area surrounded by a flock of ducks. While they are one-sixth actual size, Murphy's attention to detail in his miniature duck carvings, hand-painted with oils, and mounted on a natural wood base, leaves little else to the imagination.

Roy is a civil service employee at Fort Monroe's Post Signal telephone exchange. Whether his adeptness with a

Many hours of research go into making each carving accurate and realistic. Actual carving of a pair such as that shown below takes eight to ten hours.



pocketknife in stripping insulation contributes to his carving ability is hard to say, but certainly the latter is more aesthetically pleasing to the laymen's eye. The knife, sandpaper, and a small piece of wood—preferably pine, mahogany, cypress, or walnut—are all that he needs to produce an authentic replica of any one of nearly 40 species of ducks. To date he has whittled his way through many board feet of lumber in creating carvings of mallards, red-heads, canvasbacks, and greater scaups, to name a few. They are sought after by sportsmen and collectors throughout the states and even as far removed from Virginia as Spain, Brazil, Japan, and Mexico, where some of his miniatures now reside. One artist even uses Murphy's miniature ducks as models for oil paints, they're that realistic. Naturally, as we regretfully might say of our real life waterfowl, the supply is limited.

Many hours of research go into making each model as accurate and realistic as possible. Once this less enjoyable task is accomplished, Roy estimates that a pair of ducks, male and female of a given species on a single setting, takes about eight to ten hours to complete, including the painting.

"Craftsman" may be the proper name for this man whose interest in carving began with repairing full-sized wooden decoys for his own hunting. He once cut up a large balsa life raft and made 250 decoys which he no longer uses, but has added to his own collection. We have no doubt that they will some day be as valuable as a Ward (Lemuel T. and Stephen of Crisfield, Maryland) decoy is today. Murphy was in the company of these and 50 other distinguished wood carvers last October when they gathered in Salisbury, Maryland, to exhibit their creativity and unique interest in birds and waterfowl. Arnold Melbye of South Yarmouth, Massachusetts, considered the best bird carver in the United States, also exhibited his works.

"Craftsman"—yes! However, "Artist" better describes a man who expresses his heartfelt love of the outdoors, its birds, and its wildlife, by using the God-given talent he possesses to produce this beauty for the rest of us. To prove the point, Roy also paints in oils occasionally, usually sea or landscapes from memory, that naturally have ducks on the horizon. But as Emerson put it, so would Murphy:

"I do not count the hours I spend in the wandering by the sea; the forest is my loyal friend, like God it useth me."

STREAMING, ANYONE?

By BILL WEEKES
Martinsville

WHEN you have a yen to go outdoors some spring or summer's day and want to do something different, maybe even a little educational—then try “streaming.”

Streaming is the gentle art of finding and studying the little living things that inhabit the moving waters of creeks and streams. This pastime requires two paraphernalia—a firm screen and a strong back.

Several Sundays ago the writer took his family to a favorite stream near Vesta (Va.) above Stuart. It meandered through a hilly pasture where sheep grazed.

After a quick lunch on a grassy knoll, we headed for the waters. I took a screen which had been firmly tacked to the halves of a broomstick while son, Billy, 3, and daughter, Lynn, 4, carried jars and wife, Louise, a bucket and garden scoop.

Clad in old boots and sneakers, we combed the stream bed for more than two hours. While the wife lifted rocks and scraped them, I held the screen waiting to see what the current would bring out of the disturbed waters. Hopefully, we would capture minute forms of life.

Our most immediate and frequent catch was the common crayfish. During the day, he hides or sleeps under rocks while feeding on smaller life and dead vegetation during the night. Other than his obvious claws, Mr. Crayfish's most notable characteristics are the swimmerettes underneath his tail, and his eyes—little protuberant black beads. When alarmed, an almost certainty when he is being lifted out of house and home onto the screen, Mr. Crayfish scurries backward, his tail uplifted in an arc curved toward his anterior.

We had been capturing these crab-like creatures repeatedly for half an hour (great way to get fish bait) before the wife moved a bigger rock than usual and when her scraping ended the current deposited onto my screen one of the stream's granddaddy crawdads. From tail to tip of pincer, it measured 5½ inches.

This unexpected uncovering resulted in a quick expedition for the bucket. Once we “got over” this big catch, we started to pay closer attention to other kinds of esoteric life. We screened several pink worms, one green caterpillar, a minnow, a minute

It is nice to have a couple of helpers when on goes streaming.



pink worms, one green

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Many fascinating forms of life are to be found in any reasonably clean stream. At left is a whirligig beetle; center, two insect larvae which would be great crappie bait; right, two small crayfish.





INSECTS — MOSTLY BUTTERFLIES — OF DISMAL SWAMP

DR. J. T. BALDWIN, JR.
College of William and Mary
Williamsburg

IN response to my request asking him to contribute a Dismal Swamp book, the late Austin Hobart Clark—distinguished biologist, retired curator at the Smithsonian Institution, and great human being—replied under date of February 28, 1952:

"The project of a book on the Dismal Swamp is most interesting. For students of ecology it is the most easily accessible of all the great southeastern swamps, though in recent years it has been neglected. At present the Okefenokee Swamp seems to be the most popular.

"The Great Dismal is unique among southern swamps in many features. Much more typical is the swamp along the North Landing River with its more largely southern fauna and flora. This especially interesting swamp has received very little attention. And east of this are the great sedge marshes, with a spectacular stand of lotus (*Nelumbo lutea*) at the Sigma Store.

"It is not my business to make suggestions, but it seems to me that it might be well to broaden the project to cover all the types of swamps in eastern Virginia, the Great Dismal, the smaller isolated dismals just to the west, the North Landing River swamps, the wet hollows in 'The Desert' east of Norfolk, and the sedge marshes south of Virginia Beach. This would not increase the size of the volume unduly, and it would call attention to the extraordinary diversity of the swamps and marshes in the area.

"My personal investigations have been concerned chiefly with the butterflies. . . . A short paper ['Butterflies of a Wood Road at Suffolk, Virginia,' by Austin H. and Lelia F. Clark, *Entomological News*, pp. 1-5, January, 1939.] enclosed herewith deals specifically with the butterflies of the Dismal Swamp region. A number of these occur about the borders of the Swamp, but not in the Swamp itself. *Libytheana bachmanii* was found after the paper was published.

"Both the fauna and flora need much more extensive study. Especially characteristic among the plants are the aquatic mosses which occur in unbelievable abundance, associated with a number of genera of strange algae.

"A good book on this subject would certainly attract attention and probably would result in a renewed interest in one of the most interesting regions in the United States."

Unfortunately it has not been feasible to broaden the scope of the book, but the suggestions made by Austin H. Clark are valuable in that they specify certain areas that need study.

For a detailed account of the butterflies of the Dismal Swamp region, the student should see *The Butterflies of Virginia* by Austin H. Clark and Lelia F. Clark, Smithsonian Miscellaneous Collections, vol. 116, No. 7, pp. i-vii, 1-239, pls. 1-30, colored frontispiece and folding map, December 20, 1951. The map is of the faunal zones of Virginia



Lethe Creola (approximately twice actual size) known from only fourteen specimens until found in abundance in Dismal Swamp.

and was prepared wholly from the personal records of the authors. This is a most valuable publication.

Thomas R. Henry published a vignette of Austin Hobart Clark (1880-1954) in the November, 1955, *Cosmos Club Bulletin* and said about him: "As a zoologist he achieved worldwide recognition as one of the greatest authorities on echinoderms . . . To entomologists he was perhaps equally well known as a lepidopterist, though he considered his butterfly studies a hobby. For his book *The Butterflies of Virginia* . . . he and Mrs. Clark (co-author) collected butterflies in every one of the hundred counties of the Old Dominion, usually traveling in 'Henrietta' . . . a model 'A' Ford of the vintage of 1930, and for fifteen years or so 'she' carried Austin, his wife, butterfly-collecting equipment, and oftentimes guests, all over the Virginia countryside. On weekends and during holidays 'she' might be seen almost anywhere from the summit of White Top Mountain to the purlieus of the Dismal Swamp."

Under the date of March 5, 1953, Austin Clark sent me the following account of experiences in the Dismal Swamp.

"When we began our studies of the Dismal Swamp
(Continued on page 14)



What's an Ecologist?

By ROBERT H. GILES, JR.

Associate Professor

Department of Forestry and Wildlife, V.P.I.

"ECOLOGISTS are a dime a dozen these days. . . . And worth every cent of it!" This derisive bit of humor, like most humor, is jammed with ideas and subtleties. It's an "in" joke among people who call themselves ecologists, but is not very funny when leveled in any seriousness by an outsider. Ecology is a word appearing with increasing frequency in the public press. It's a loose word with big meaning and fuzzy edges and therefore people who deal with ecology—ecologists—are hard to identify.

The older-and-wiser will ask, "Who cares?" but others who try to read critically, who try to listen intelligently, who evaluate the source of material and statements, and who vote for people or ideas—want to be able to identify ecologists or be able to ask the right questions in order to show the true colors of anyone who says, "I am an ecologist."

Ecology is the study of the interactions of plants, animals, and their environment. Some people lose sight of the emphasis on *interaction* and thus they study plants, animals, and the relevant environment of these two. If a person is willing to consider bugs and man as animals, and bacteria and trees as plants, and environment as everything around plants and animals (including other plants and animals themselves), then there's little left to study. "What isn't ecology?" is a much more difficult question when one holds the latter view.

Whichever way the definition turns, ecology is an exciting idea, one that pushes for the big-picture, one that requires that not only descriptions of things but also descriptions of processes be made. The dynamics of things is the quest of the modern ecologist. He sees simple relations being untrue; they are not complete enough. Nature is too big and complex. He sees through his studies that everything is interrelated. His greatest difficulty is saying what one thing causes another; he passionately resists making such statements for he knows they are bound to be untrue. At least two and probably hundreds of factors act in nature to produce any outcome—such as an acorn crop, a bloom of aquatic organisms, or an animal migration. These factors are at work all of the time but when they converge, when they operate together or interact, then special events occur.

Ecologists, such as Professor H. A. I. Madgwick of the Department of Forestry and Wildlife at V.P.I., are interested in and actively studying (and teaching what they learn) about the events—the dynamics of nature. Extensive field studies are required to collect masses of data about all of the significant factors that go into, for example, putting a new layer of wood on a pine tree. Soil moisture, temperature, health and size of the slope of the land, soil nutrients, organic matter, angle of the sun, influence of surrounding or overtopping trees, all contribute to the event of Nature growing some wood. Learning which factors contribute and which do not is very important.

Thousands of trees have been planted where things were not "right" for them. Their home, habitat, or *oikos* (from which is derived the word ecology) was unsuitable and they

have died. The records of success of wildlife food plantings is equally as grim. It is wasteful to ignore ecology—whether planting trees, or wildlife food, or wildlife itself. Ringnecked pheasant stocking in Virginia overtly ignores the concepts of ecology. Ecologists studying nature look for the right factors and those that limit plants and animals. They work toward developing predictive ability. They can now say, e.g., "If you stock raccoons in Virginia, there is 90% certainty that by next year the population will be the same as it is now or will be less."

Ecologists are often called forest ecologists, as is Dr. Madgwick, or plant ecologists. This simply points out their special interest. They know that in the science of interaction it is impossible (and undesirable even if possible) to segregate a part of ecology. It doesn't make sense—like asking for a dry glass of water.

There is a growing need for ecologists but more importantly a need for citizens who are aware of ecology, those who are aware that there are no simple things done in Nature. There is need for intelligent voters who know that every action with nature vibrates throughout the natural system. Often these vibrations or side effects are very detrimental. The need is for people who have an ecological viewpoint, who pause before making a decision to burn a field, plow a fencerow, plant a pine plantation, or blacktop an acre, and ask: What might be the side effects of what I am about to do? Will I send an ecological bullet ricocheting down the halls of Nature, without ever knowing where it will stop or whom or what it will hit?

We are being hit by bullets now. The pain of air and water pollution; of ill-advised highway construction; of silted dams; of poor fishing resulting from escaped minnows and inadequate harvests; of ill-advised stocking or restocking of nutria, beaver, and elk.

It is necessary to reemphasize that an ecologist is one who studies the dynamics of nature. There are a few *applied* ecologists—those who bring the hard questions of nature and its use before decision makers. They are the ones who translate studies into consequences that mean something; they show the threats of certain practices; use only the safest and most beneficial methods for the long-run; and bide their time when they cannot predict what may happen until answers are found by other ecologists. Ecological mistakes, like ecologists, "are a dime a dozen" these days. Trying to correct them is very, very expensive. We are already paying dearly to correct the ecological abuses of our fathers. The price to our children may be beyond their reach. A price will always have to be paid but it will be directly proportional to our ecological ignorance—our ignorance both as ecologists and as citizens who daily manipulate and respond to the environment. What's an ecologist? He's a coach needed by society that is playing a rough game on a muddy field. Winning or losing is no longer a question; to lose is not worth contemplating. The energy wasted in such a gristly task may be all that would be necessary to win.

VIRGINIA WILDLIFE

CONSERVATIONGRAM

Commission Activities and Late Wildlife News . . . At A Glance

DOVE, RAIL SEASONS SET. An increase from 12 to 18 in the daily bag limit for mourning doves was the biggest change in migratory bird regulations approved for the upcoming season in Virginia. The first half of the state's split dove season will open September 6 and close November 1. The second period will begin December 15 and extend through December 27. The bag limit will be 18 doves daily, 36 in possession. As usual, shooting will be limited to afternoons from 12 o'clock noon until sunset each day. The increased bag limit is an effort to gain more information on the dove and the effects of gunning pressure. The experiment with the higher bag is expected to remain in effect through next year in the Eastern states.

Rail seasons were set to open September 12 and extend through November 20. The opening date corresponds with seasonal high tides expected to create ideal rail hunting conditions. Hunters will be allowed 15 clapper and king rails combined daily and 30 in possession, plus 25 sora and Virginia rails combined daily or in possession. Woodcock season will begin November 17 and end January 20 with bag limits of 5 daily, 10 in possession. The season on jacksnipe (Wilson's snipe) will also begin on November 17 but will extend only through January 5 with a daily limit of 8 and a possession limit of 16. Shooting hours for all migratory species except doves are from one-half hour before sunrise until sunset each day. Possession limits apply to birds killed on more than one day.

COUNTIES RECEIVE \$7,471 AS SHARE OF GAME COMMISSION TIMBER SALES. Payments totaling \$7,471.55 have been approved for eight Virginia counties representing their 25% share of Game Commission timber sales from Wildlife Management Areas located within the county. The procedure was established by the Legislature beginning in 1962 to make up for the loss of taxes on such lands. Since that time, counties have received \$39,775 in revenue under the program.

Timber cutting on Wildlife Management Areas is carefully calculated to have the maximum beneficial effect on wildlife. Most cutting is selective with clear cutting limited to small blocks and strips which serve as clearings for the production of herbaceous wildlife food. Thinning cuts improve stands and provide deer browse in maturing hardwoods. The cost of logging roads and other expenses is deducted from the gross timber sales before the county share is calculated.

Counties which shared in the timber sales and their respective shares are as follows: Amelia, \$476.37; Augusta, \$892.90; Bath, \$1,085.94; Highland, \$182.13; Madison, \$3,534.18; Rockbridge, \$953.68; Smyth, \$322.20; and Washington, \$24.15.

WILDLIFE FEDERAL AID FUNDS UP NEARLY 10%. Virginia's initial apportionment of Pittman-Robertson and Dingell-Johnson federal aid funds for the 1969-70 fiscal year is \$418,429, up nearly 10% over last year's initial allocation. Dingell-Johnson funds for fish restoration made up \$90,216 of this total representing a considerable increase over \$67,508 apportioned the year before. The \$328,213 in Pittman-Robertson funds for wildlife restoration is only slightly above the \$316,737 allocated last year. These initial apportionments supposedly represent from one-half to two-thirds of the total available for the year. The State wildlife agency must put up \$1 of state funds for each \$3 of federal funds used on approved projects.

Dingell-Johnson funds are receipts from a 10% federal excise tax on fishing tackle while Pittman-Robertson moneys come from a similar 11% tax on sporting arms and ammunition. One of the conservationists' great fears is that restrictions on gun ownership and use may reduce these much needed funds used to finance research leading to better hunting and to finance lakes and wildlife management areas for public use. The moneys are collected from the manufacturers and deposited in the U. S. Treasury from which they are divided up among the 50 states, the Virgin Islands and Puerto Rico.

region in 1933, it was practically unknown territory so far as butterflies were concerned. We made our headquarters at the Hotel Elliott on the western border of the Swamp. On our first visit we asked the hotel clerk where the Swamp was and how to get to it. He had no idea of how to get to it, but he told us it was a mighty good place to keep away from. No one else seemed to know anything about it either, except that it was infested by bears, cow-bears, sow-bears, cane rattlers, and zombies.

"Undeterred by the prospect of meeting these formidable elements of the local fauna, we drove to the base of operations of the Camp Lumber Company on the White Marsh road (since abandoned) and received the permission of the boss-man to stroll along the lumber railway. Just north of that railway and parallel to it was an abandoned woodland road, now grown up to brush. This proved to be one of the richest collecting grounds we have ever seen. Here we found over eighty species, some of them great rarities at that time.

"There was one butterfly we thought ought to occur in this area, *Lethe creola*. It was known from only fourteen specimens, all males and only two or three with definite locality records, in Louisiana and North Carolina. It has a relative in Sikkim which is known to feed as a caterpillar on the 'hill-bamboo' (*Arundinaria*) and to be crepuscular, shunning bright sunlight. We thought ours should have the same habits. So we drove about until we came to a damp pine wood with an undergrowth of cane. Beating the cane with the handles of our nets, we stirred one up in about three minutes and secured a fine series of both sexes.

"We published a note on our discovery, and the next summer when we went to the hotel the genial proprietor, the late Mr. L. Parker Hill, told us that twenty people had already stayed at the hotel while hunting for that butterfly. So he took \$1.50 a day off the charge for our room.

"Certain skippers, very rare in collections, we found common along the woodland road. This interested our good friend, Mr. Ernest L. Bell, our leading authority on the Hesperidae. So we arranged a collecting trip with Mr. and Mrs. Bell and Professor and Mrs. C. T. Brues of Harvard, and their daughter Alice. We met at the hotel at Suffolk, and the next morning visited the woodland road. After catching sixty of the supposedly rare *Amblyscirtes textor*—and Mrs. Bell had about as many, Mr. Bell put

Atlides halesus (nearly twice actual size) is often seen high up about the mistletoe.



Large black swallowtail, *Papilio palamedes*, especially characteristic of the interior of the swamp. (Approximately actual size.)



All butterfly photos courtesy Entomology Department, The Smithsonian Institution.

his net down and, looking about him, said: 'I never thought I would pass *textor* up.' In all his many years of collecting he had never previously caught but one, at Mobile, Alabama. The sight of dozens of the little creatures was quite a shock.

"But a greater shock came two days later. It was dusk. We were driving through the North Landing river swamp. Mr. Bell spotted some large skippers on pickerel weed at the edge of the causeway. We left the car, and each of us caught one. They were sooty black. I went over to Mr. Bell and said: 'Ernest, is this not *Atrytone dukesi*?' 'No,' he said, 'it can't be.' We each caught two more.

"After dinner we went to the Bell's room, and I said: 'Ernest, have you examined the skippers we caught this evening?' 'Yes,' he said, 'they don't differ in any way from *dukesi*, only they just ain't it!' He could not bring himself to believe that the very rare *dukesi*, known by only a few specimens from Mobile, Alabama, could occur in

Virginia. But it does, and, furthermore, it is common in Virginia. Another skipper, *Atrytone alabamiae*, known only from a male and a female from Mobile, we found common in the Dahl Swamp in Accomack County. Mr. Bell refused to believe it until we sent him specimens. Our friend, Mr. Otto Buchholz, later found this species in the Dismal Swamp.

"Surprises such as these make the study of any form of life in a relatively unknown region an interesting gamble, and undoubtedly other similar surprises await future collectors in this area. But there are other kinds of surprises, too. One spring on the last day of March, a beautiful warm sunny day, we started off for the Dismal Swamp. At Fredericksburg it turned cold, with freezing rain. By the time we reached Richmond it was snowing. When we reached Nansemond County the next day, it was so cold that almost no insects were flying. And we observed the swallows hovering about the cows and picking off the flies, like hummingbirds about flowers.





"On another occasion in late summer it rained continuously, so no butterflies were on the wing. However, this proved fortunate. Not being able to collect butterflies, we examined canna beds for the caterpillars of the Brazilian skipper (*Calpodus ethlius*). We found them—hundreds of them—everywhere we looked and all along the Coastal Plain as far as the Northern Neck.

"Since we first knew the Dismal Swamp twenty years ago, there have been many changes. We covered the area rather thoroughly, visiting Lake Drummond several times and, thanks to Mr. Camp, making an extensive trip on the lumber railway from Cypress Chapel and its branches. Now the valuable timber has mostly been lumbered out, and the aspect of the Swamp has changed.

"On hot summer days in the early morning the mist rising from the Swamp drifts westward over the agricultural lands and forms a blanket of water vapor that must be of great importance in maintaining the productivity of the peanut fields and other areas adjacent. Means should be taken before it is too late to place the entire Swamp under some State or Federal agency in order to restore it to, and maintain it in, its former condition.

"The swamp could be made a valuable recreational area if a rest house or small hotel were built on the southern and more accessible end of the lake and if the Jericho and Washington ditches were cleared and made available for canoe travel. We have noticed that cypress seedlings were abundant in some of the denuded areas so that if left alone the Swamp would eventually restore itself if properly protected.

"The unique charm of the region, its accessibility, its history, and the pleasing flavor of its water which in the past was so important to our Navy, coupled with the absence of malaria in the Swamp itself, could be played up in such a way as to make it an attractive resort for all those interested in nature. But, most important, adequate protection and conservation of the Swamp would insure the permanence of the blanket of water vapor over the agricultural areas to the westward."

And under date of February 25, 1953, a more technical statement was sent by Austin H. Clark and Lelia F. Clark.

"No less than ninety-one species and subspecies of butterflies are known from the Dismal Swamp area. Most of these are butterflies of wide distribution over eastern North America, but several are southern types that in this region reach the northern limit of their distribution, and



Speyeria diana (actual size) has decidedly abnormal distribution, occurring in only Dismal Swamp and elsewhere on the coastal plain, and in the mountains. It is rare throughout most of its range.



Egg case of Chinese mantis on bamboo growing in Dismal Swamp. Insect was imported on nursery stock about 1900.



Amblyscirtes textor, about twice actual size.



Euptychia areolata septentrionalis, about twice actual size.



Atrytone dukesi, about 1½ times actual size.

some others are northern forms that are known farther south only on the Piedmont or in the mountains."

The interior of the Swamp is relatively barren because of the lack of food plants and the presence of deep shade, though stray individuals of many different species wander in: they are seen particularly about the lake and along the lumber railways. Especially characteristic of the interior of the Swamp are the large black swallowtail (*Papilio palamedes*), which is very common, and the large brilliantly metallic hairstreak (*Atlides halesus*) seen mostly high up about the mistletoe or on white flowers. In the eastern area about the North Landing River the large black skipper (*Atrytone dukesi*) is common; it stays mostly in the deep shade. With it lives the much more active and brightly colored *Poanes yehl*, one of the shyest of skippers.

It is along the borders of the Swamp, especially the western escarpment, where the woods are drier, commonly with an abundance of cane or other grasses or sedges, and in the

adjacent open fields and farmyards, that butterflies are found in greatest variety and abundance. Many of these are very local and confined to restricted areas. Here live a number of wood-nymphs (*Satyridae*), including *Lethe portlandia* and *L. creola*, usually considered rare. And the little skippers: *Amblyscirtes textor*, *A. carolina*, and *A. alternata*. All of which are rare in collections, though common and, in places, abundant here.

Most spectacular of the butterflies of this region is the diana fritillary (*Argynnis diana*), largest and most magnificent of all the fritillaries; it is found also in the mountains, but not on the Piedmont. The giant swallowtail (*Papilio cresphontes*) occurs casually throughout this area, especially to the east, and the yellow (*P. glaucus*), spice-bush (*P. troilus*), and zebra (*P. marcellus*) swallowtails are common, the last mostly in spring. The blue swallow-tail (*P. philenor*) appears only about houses with vines of Dutchman's pipe draping the verandas.

In the summer one of the commonest butterflies here is the large clear yellow (*Phoebis eubule*). Usually this butterfly is only a summer visitor from farther south, not being able to survive the winter. Several other butterflies are similarly only summer visitors, among them the long-winged Gulf fritillary (*Agraulis vanillae*) and the long-tailed skipper (*Urbanus proteus*), the 'bean leaf-roller' of the South. Another southern visitor is the Brazilian skipper (*Calpodus ethlius*), which is usually rare but occasionally abundant and then does great damage to canna beds on the Coastal Plain.

Two of the commonest butterflies in this area are introductions. The common white butterfly seen especially about farms, the cabbage white (*Pieris rapae*), was introduced from Europe in 1859 and has now spread all over the country. The orange butterfly common in fields (*Colias eurytheme*) was originally western and southern, first coming into Virginia from the South and through the mountains about thirty years ago and later largely replacing its native yellow relative.

Once in a while stray individuals from other areas wander into the Dismal Swamp region. Most noticeable among these is a tropical monarch (*Danaus plexippus megalippe*) much like our native monarch but with the preapical spots on the fore wings clear white. It possibly comes in as a stowaway on ships from tropical America calling at Norfolk. It has been captured in England. Another wanderer is a little hair-streak (*Strymon ontario*); the real home of which appears to be in the West, beyond the Mississippi.

The Clarks, strange to say, seem to be the only individuals who have made comprehensive collections of insects in the Dismal Swamp. Various entomologists have collected there, but not comprehensively.

Ashley B. Gurney and his son, Richard D. Gurney, received a grant-in-aid from the Washington Academy of Sciences in 1962 "to make a preliminary survey of the Orthoptera (grasshoppers, katydids, crickets, cockroaches, mantids, walkingsticks) of the Dismal Swamp." They collected there for several days in early July of that year and again at the end of August. On each trip they visited various parts of the Swamp, and in August they covered some of the areas that they had collected in on the previous trip. Three other entomologists, each with his own field of interest, went on the July trip: Don R. David, Microlepidoptera; Oliver S. Flint, Jr., Trichoptera and Neuroptera; David C. M. Manson, general and Acarina.

Ashley B. Gurney published a short report on the 1962

trip: "A Brief Look at the Dismal Swamp and Its Natural History, Especially the Insects," Jour. Wash. Acad. Sciences 53: 57-63, March, 1963. I quote pertinent paragraphs from that paper.

"Methods of collecting Orthoptera included sweeping grasses and weeds and beating shrubbery with a net; illuminating a white sheet with a gasoline pressure lantern and a low-voltage vapor-tube light for attraction at night; setting glass jars, baited with molasses, flush with the ground surface, to attract cockroaches and crickets; and attracting cockroaches and crickets to dry oatmeal flakes on the forest floor at night—the so-called 'oatmeal trail' method. Each method produced some species not obtained in any other way.

"Several hundred specimens of Orthoptera, representing a total of 45 species, were obtained. Among them were 4 cockroaches (all native outdoor species), 2 mantids, 9 katydids, 11 crickets, and 19 grasshoppers. Included were three species of grasshoppers from outside the Swamp proper; they occurred only near the coast—one of them a beach inhabitant, the other two confined to the vicinity of brackish water which is not found in the Swamp itself. The Orthoptera found are mainly widespread species of the southern Middle Atlantic states, with none limited to the southeastern coastal region. Judging from the species previously known to occur in Virginia and North Carolina, a dozen or two additional species probably live in or near the Swamp. No camel-crickets (*Ceuthophilus*), which are collected most readily by molasses-baited jars, were taken in spite of efforts directed to their detection. This genus is almost universally present in the Eastern states; it will be interesting to conduct more extensive trapping to determine whether the 1962 collecting was simply insufficient, or whether the Swamp is unsuited to these insects. Late August is favorable for collecting a maximum number of Orthoptera, because some species do not mature until midsummer or later. However, a few occur as adults in spring and early summer.

"Most of the Trichoptera and Lepidoptera collected on our 1962 trips are fairly widespread Eastern species. One microlepidopteron, *Compsiolechia coverdalella* (Kearfott), had not been recorded before from Virginia or an adjacent State, having been described from Louisiana; consequently, its occurrence in the swamp is of much interest. One trichopteron (caddis-fly), *Cernotina truncona* Ross, was described from Florida and is also known from southern North Carolina; hence, this northern extension of the range is an important addition. A second trichopteron, *Molanna uniophila* Vorhies, is known as an inhabitant of New England and nearby states, so that it is an example of a normally northern species penetrating the edge of the coastal Southeast.

"Refined analyses of insect distribution in the United States are still fragmentary, in spite of considerable scattered information in literature and large but incompletely studied collections in museums. Some species that appear to be freaks of distribution, when first found in an area far from the usual range, later prove to be very widespread. Insects of the Dismal Swamp well illustrate this point. There simply has been too little comprehensive collecting to support final conclusions as to number of species present or distributional relationships, beyond the general impressions which now are evident. Even if a thorough survey were made, it could be fully meaningful only after the entire eastern fauna is better understood than it is at present."

THE FINE ART OF CLAIMING

EUGENE H. CASSELL
Charlottesville

THE gentle, or perhaps not so gentle, art of claiming has no doubt existed since two cave men threw rocks simultaneously at the same animal and he dropped dead. The fact that both rocks struck glancing blows and the quarry happened to be standing in a nest of rattlers would have done nothing to alter the conviction of each hunter that he had delivered the mortal blow.

With many refinements this art has persisted and expanded into modern times. The invention of the shotgun was the answer to the claimer's dream. It might be interesting to follow the claimer through a successful season in Virginia.

The dove season is widely acclaimed as the time to sharpen your eye for subsequent shooting. It is also an excellent time to sharpen your tongue and wits to the point where you can get your limit without pulling a trigger. It is best for the accomplished claimer to take a stand in a rather crowded field in close proximity to one of more of the best shots on the hunt. He should not shoot at the first scattered birds which come over as this would tend to disclose his lack of prowess. This time may be better employed in boasting of past successes in the dove field—"took me 15 shots to get my limit," etc. However, when the flights begin to come in thick and fast he can swing into action. In the beginning it is often necessary to waste some shells firing into the thick of the flights. He may accidentally hit a bird but his gambit is not to count on this but to watch carefully for falling birds and proceed to them purposefully when they are down. The preliminary sound effects are only to establish that his gun is in working order. Later it is necessary only to put the gun to the shoulder and start walking at the first sight of a faltering bird. It is entirely possible that one of his hunting companions may claim one of the downed birds but only one. Very few people will claim a second time when fixed with a stony stare and asked, "Did you shoot too?" It is possible when using this system to be the first one in the field to get a limit and to be well on your third beer before the next hunter arrives at the cars.

The duck season, I think, can best be illustrated by a story. A friend of mine, who is an excellent shot, was going to a club of which he was a member and was asked to take a guest of one of the other members with him. On the way to the camp the guest held forth at great length on the

despicable breed of claimers and my friend agreed completely. The next morning the two drew a blind together and there was further discussion of claiming which was silenced when two mallards came over. My friend selected the lead bird, swung on it beautifully, pulled the trigger and watched it crumple into the water. As far as he knew the guest had not shot. Feeling a glow of satisfaction he turned to the guest who said, "Now claim that, you S.O.B.!"

The true claimer does not enjoy turkey hunting because there are a minimum of occasions on which to employ his talents. However, if there comes across a bird which has been severely wounded by another hunter he should be quick to wring its neck, fire in the air and yell, "I got him." Grouse more frequently present this same opportunity.

Quail hunting presents the claimer with hunting conditions and quarry which are ideal for his purposes. Who can really remember exactly what happens when twenty birds burst into the air with a deafening roar and fly off in all directions? The claimer, that's who. Casually firing in the general direction of the covey, he keeps his wits about him and his eye peeled for the puffs of feathers which should

materialize if he has made a proper selection of hunting companions. He should have the birds in his coat before the other hunters have gotten over the excitement of the covey rise. It should be noted here that a party of three is ideal for the claimer's purposes. There is less confusion with only one hunting partner.

One of my favorite stories regarding a party of three took place last winter. One dog was on point, the other was back-standing beautifully as the hunters moved up. When the birds got up, the man on the right shot twice and said, "I got one." The man on the left shot twice and said, "I got one, maybe two." The man on the right picked up his bird and the dogs found two to the left. Meanwhile, the man in the center who had unloaded an automatic at the covey moved ahead about twenty yards and discovered a dead bird between his feet. "There's a bird here," he yelled. "Damned if I didn't get three," said the man to the left.

There are those who think that the time spent in developing and refining claimers' techniques would be more productive of game if employed in shooting clay targets. Let them dream and eat chicken from the supermarket while the claimers feast on the bounty of our fields and woods.



"Your bird, boss?" A cooperative retriever helps the claimer.

THE presence of man and his works has had different effects on different species of wildlife. It has helped some kinds and hurt others. To a number it has been a death sentence. The roll call of extinct species, nationwide, includes passenger pigeons, heath hens, Labrador ducks, Carolina parakeets, sea minks and the long-eared kit fox. In Virginia the sad list is much longer.

The buffalo—bison, if you want to be technical—left us early. Old Shaggy-mane was never one of Virginia's more plentiful residents, but he was here. He left us a heritage of place names: Buffalo Gap, Buffalo Spring, Buffalo Ridge, and the Bull, Cow and Calf Pasture Rivers.

In his seasonal migrations he found the best-graded routes, and some of our roads follow his old trails. One of his main paths from Tuckahoe to western Virginia was through Rockfish Gap (U. S. 250) and Buffalo Gap to his summer pastures along the above mentioned rivers.

The eastern, or woods, buffalo was a subspecies of the better known plains buffalo. Early descriptions picture him as being larger and darker colored. His wooded habitat gave him a somewhat different way of life. To some extent he was a browser. He liked to live in herds, but was never seen in the immense droves of his prairie relations.

He is not mentioned in the reports of the first settlers. There is evidence that he sometimes roved as far east as the Chesapeake, but his main range in Virginia was in Piedmont and the Blue Ridge and the Great Valley.

FORMER VIRGINIAN

By WALLACE OBAUGH
Hinton

His presence in colonial Virginia is attested to in many letters and journals. The same sources indicate that the process of his attrition and extinction was taking place early. George Washington was one of the many people interested in producing a hardy hybrid of the buffalo and domestic cattle, and Thomas Jefferson was concerned about its disappearance as a wild species.

In a letter dated March 31, 1739, Mr. John Clayton, of Gloucester County, wrote: "The bears, panthers, buffaloes and elks and wildcats are only to be found among the mountains and desert parts of the country where there are as yet few inhabitants, and the hunting there is very toilsome and sometimes dangerous."

Eleven years earlier William Byrd had written the journal that he later transcribed into *The History of the Dividing Line Betwixt Virginia and North Carolina*. For an on-the-scene description I refer you to his book:

"Near this creek (Sugar-tree Creek) one of the men had the luck to meet with a young buffalo of two years old. It was a bull, which, notwithstanding it was no older, was as big as an ordinary ox. His legs are very thick and very short, and his hoofs exceeding broad. His back rose into a kind of bunch a little above the shoulders, which I believe contributes not a little to that creature's enormous strength. His body is vastly deep from the shoulders to the brisket, sometimes six feet in those that are full grown. The portly

figure of this animal is disgraced by a shabby little tail, not above twelve inches long. This he cocks up on end whenever he's in a passion, and, instead of lowing or bellowing, grunts with no better grace than a hog.

"The hair growing on his head and neck is long and shaggy, and so soft that it will spin into thread not unlike mohair, which might be wove into a sort of camlet. Some people have stockings knit of it, that would have served an Israelite during his forty year's march through the Wilderness.

"Its horns are short and strong, of which the indians make large spoons, which they say will split and fall into pieces whenever poison is put into them. Its colour is a dirty brown, and its hide so thick that it is scarce penetrable. However, it makes very spongy sole leather by the ordinary method of tanning, though this fault might by good contrivance be mended.

"As thick as this poor beast's hide was, a hullet made shift to enter it and bring him down. It was found all alone, though buffaloes seldom are. They usually range about in herds, like other cattle, and though they differ something in figure, are certainly of the same species. There are two reasons for this opinion: the flesh of both has exactly the same taste, and the mixed breed betwixt both, they say, will generate. All the difference I could perceive between the flesh of buffalo and common beef was, that the flesh of the first was much yellower than that of the other, and the lean



USDA Soil Conservation Service photo

something tougher.

"Buffaloes may be easily tamed when they are taken young. The best way to catch them is to carry a milch mare into the woods, and when you find a cow and calf, to kill the cow, and then having caught the calf to suckle it upon the mare. After once or twice sucking her, it will follow her home, and become as gentle as another calf."

No one knows when the last eastern buffalo died, nor where, nor how. The subspecies was most at home in the Southeast, and probably made its last stand in the hidden valleys of the southern Appalachians. The last few most likely did not die directly at the hands of man. The balance of nature requires that the ratio of predators and the preyed-upon species be kept fairly constant, with the vegetarians maintaining the larger population. The secretive and more solitary ways of the big flesh eaters, wolves and panthers, protected them—comparatively—from the pressure of hunting, and they soon outnumbered the buffalo. Competition between them for each calf of the dwindling herds increased; at the same time the declining number of the buffalo, with the restriction of their range, made them less able to hide or protect their young. We can imagine, somewhere in the Virginia mountains or near them, the last old bull or cow, weakened by age and disheartened by loneliness, being dragged down by wolves or knocked over by the spring of a cougar.



Commission photo by Kesteloo

NOTES ON FLOAT FISHING

By DOUG CRINER
Arlington



Bill Cochran photo

BY "float fishing," I mean fishing while drifting down a stream in a small boat; I don't mean still fishing with a float or bobber. Any angler experienced enough to understand that distinction is experienced enough to try float fishing. Many streams in Virginia are best fished in this manner.

I first tried float fishing just a few years ago so I'm certainly not the most experienced float fisherman in the state. However, I have had the advantage of learning the techniques from some of the best float fishermen in northern Virginia: Hugh Morrison, Noel Story, and others. Much of what I say in this article is based on things I have learned from these fishermen. I have also benefited from living within easy driving distance of several streams that are excellent for float fishing—including the upper Rappahannock River, the Rapidan River, and the South Fork of the Shenandoah River.

Float fishing has a number of advantages over other ways to fish in streams. One advantage is being able to fish in scenic and isolated portions of streams that are inaccessible to waders and bank fishermen. Another advantage of float fishing is that you can fish more water in a day than you can by any other kind of freshwater fishing. This makes float fishing more interesting even on "dog days." But the primary attraction of float fishing is that you can catch more fish!

The chief prerequisite to float fishing is a suitable boat. I own a seventeen-foot aluminum canoe and could discuss the virtues of this craft at length. Some people like johnboats and a few use inflatable rubber rafts. Most float fishermen seem to agree with me that a canoe is best.

One item that is not a prerequisite for float fishing is an outboard motor. A motor may be useful in long eddy water of a few rivers but you can generally fish more and will become grounded in the riffles and shallows less often without a motor. A paddle will serve you much better.

The basic idea of float fishing is straightforward. First find a navigable stream. You and a friend drive separate automobiles to point A on the stream. Leaving one auto at Point A, both of you ride in the other auto, with the boat, to another place, point B, upstream of point A. Fish while floating in the boat from point B to point A. Upon arrival at point A, load your equipment into the auto that was left there. Then you and your friend drive back to point B to pick up the other car.

That may sound easy enough. However, the first hitch is likely to arise in finding suitable points A and B. The surest way to do this is to talk to local float fishermen or canoeists. The Commission of Game and Inland Fisheries has literature available that describes Commission-owned boat landings on Virginia rivers. There are even books written on the subject of Virginia float trips. *Canoeing White Water* by Randy

Carter and *Blue Ridge Voyages* (in two volumes) by Roger Corbett and Lou Mataria are available in many public libraries. *Canoeing White Water* is the more comprehensive of the two books and is more useful to fishermen. It can be purchased from the author who lives in Warrenton.

The chief danger that seems to befall many first time float fishermen is that they tend to select a trip that is too long. As a starter, I would suggest a float trip no longer than six miles. It is difficult to fish much more than this length of river in one day. During periods of low water or over streams with many riffles, a shorter trip may be appropriate.

When seeking advice on float trips from canoeists, bear in mind that they usually travel three or four times faster than does the fisherman over the same trip. Don't get caught at dark while still miles from your destination. Also, before embarking, find out if there are any dangerous rapids on your proposed float trip. If there are, plan to portage around them or select another trip. Riffles and rapids are exciting for canoeists but are generally a pain in the neck for float fishermen. Many float trips that are considered uninteresting by experienced canoeists are great for fishing.

On a float trip, it is best for two fishermen to be in each boat. While one person fishes, the other can keep the boat drifting on a straight course and can maintain the desired distance from the bank. At likely spots, the boat can be anchored so that both people can fish.

Almost all kinds of fishing techniques are successful for float trips. Casting, spinning, and fly rod fishing are all good. Artificial lures are used almost exclusively. Still fishing is virtually impossible except when the boat is anchored.

Of casting, spinning, or fly casting, the latter is my first choice for float fishing. By using popping bugs and a floating fly line, underwater snags do not occur. A disadvantage of casting and spinning is that the movement of the drifting boat tends to ruin the last portion of the retrieve. With fly casting, however, the popping bug can be in a position to catch fish a larger percentage of the time.

The species of fish normally caught on float trips include all those that strike artificial lures. Smallmouth bass, largemouth bass, and various types of bream are usually caught in Virginia streams suitable for float trips. Rock bass and striped bass are also caught in some streams suitable for float trips. Trout streams are often too small to be navigable; in any case, trout are frequently too spooky to catch from a boat.

On a float trip, carry an ice chest in your boat for storing the fish you catch. If you use a stringer, your fish are liable to be smashed between your boat and rocks when going through riffles.

One additional item of equipment is a camera. You will want pictures of both the scenery and the big ones!

The Dove Experiment

(Continued from page 6)

ministrative details presently require that national regulatory decisions be made approximately two months prior to the opening dates of dove hunting.

The Experiment's Objectives

Administrators and technicians agreed that with a species as important as the mourning dove, additional knowledge was needed for its adequate management. It was the need for better mourning dove management information that prompted the Southeastern Association of Game and Fish Commissioners to request and obtain the cooperation of the BSF&W of the Department of Interior and the rest of the Eastern Management Unit states in conducting a four year research effort. A single measurement of the health and well-being of dove populations was admittedly inadequate to provide a full understanding of the several factors involved when harvest regulations are changed.

The present experiment is centered around dove hunting regulations because currently this is the only practical means available to attempt to manage the mourning dove. Hunting regulations may be manipulated by changing the number of days in the season, by splitting the season, and by changing the kinds of hunting practices allowed, such as half day hunting versus full day. Hunting regulations can also change the number of birds each hunter may harvest in a single day. This has been the most common change made in recent years.

The main objective of regulation change is to increase or decrease hunting mortality, but prior to 1966 no one knew what effect dove bag limit changes had upon the hunting mortality, or upon survival rates and rearing success of dove populations.

It is possible, for example, that an increase in the bag limit for doves would not increase the hunter's harvest. But if it does, it is possible that the increase in the hunter's harvest might be absorbed from natural mortalities, and not cause a population decrease. The more doves the hunter shoots the fewer doves are left for predators and disease to kill after the hunting season. However, if a population decrease does occur, then again, it is possible that the population might overcome this decrease by expanding production the following spring and returning the hunting season densities to normal population levels.

The present experiment will attempt to determine just what does happen when the bag limit on mourning doves is increased from 12 to 18. The experimental approach used in this study is judged to be justified by the need for the additional information that will be provided by the effort. Past research has shown the dove to have excellent vigor and productivity. The experiment has been limited in time (two years of increased bag limit) so that if over-harvest does occur, the population through its inherent vigor and productivity will quickly recover. The goal is to maintain healthy and productive dove populations.

The Experiment

The Eastern Management Unit mourning dove experiment is an effort to determine the effect that increasing the daily bag limit from 12 to 18 will have upon: (1) the hunter's harvest and activity; (2) the dove population's survival rates; (3) the dove population's productivity (rearing success; and (4) dove breeding population levels.

This effort will involve the 16 dove hunting states intensively and the 11 non-hunting states of the Eastern Management Unit. The experiment is limited to a four year project, two years of baseline data during a period of a 12 dove bag limit, 1967-68 and 1968-69, and two consecutive

years of the increased dove bag limit, 1969-70 and 1970-71. The effort will actually run about eight years in that it began "gearing up" in 1966 and it will take at least one year following the experiment for banding data to be processed, and all of the data analyzed and reported. The final report is due January 1, 1973.

The Hunter Harvest Survey

The dove hunting activity and harvest survey is conducted by the Institute of Statistics at North Carolina State University at Raleigh. Personnel of the Southeast Cooperative Fish and Game Statistics Project at Raleigh had been contracted by the Southeastern Association of Fish and Game Commissioners to provide statistical assistance to Southeastern state wildlife research projects. In this activity they had developed over the past several years a capability with the techniques used by this survey.

The hunting survey is carried out over the telephone. The telephone system of each hunting state is divided into 50 operational areas called "zones" and within these zones, smaller areas are laid out called "sampling units." A specified number of these sampling units are selected and the households within these sampling unit areas are called and questioned by telephone. All the selections are made in such a manner that the replies can be expanded to a statewide estimate of the dove harvest activity on the basis of the state's total telephone system.

Calls requesting information on the number of dove hunters, their kill, and days spent hunting are made from Raleigh using leased WATS (Wide Area Telephone Service) lines. All calling is between 10:00 a.m. and 9:00 p.m. local time of the persons called. Dove hunters and their families are highly cooperative and actively helpful in their responses. The scheduled number of calls per household is limited to five if contact is not made. Call-backs are made at different times of the day. In the 1968-69 survey of dove hunting, a total of 29,150 calls were made to persons of the 16 hunting states and 25,077 calls were completed.

The Dove Banding Survey

Dove banding provides information on survival (or mortality) rates of mourning doves and information on the movements of the banded populations. It was estimated in the experiment's design that about 50,000 doves should be banded in the Eastern Management Unit to obtain the precision necessary to determine survival rates. Thus a minimum quota of 4,000 banded doves per hunting state was established for the experiment. Banding is required during the years of 1967 through 1971 and is restricted to the months of June, July and August.

Virginia's quota of 4,000 has been distributed among the nine Biologist Districts of the State. The five eastern districts have exceeded quotas of 500 doves each, while the western districts have been exceeding a 300 dove quota. In the past dove banding has been most successful in Piedmont Virginia, but this year equal success seems to be occurring in the western portion of the State. An accomplished bander with experience can band over 500 birds during the three month banding period.

Dove banding consists of pre-baiting doves in various areas where they are found naturally in good concentrations and then trapping them in a funnel-type wire trap which is baited to lure the doves in. The trapping site is usually kept baited during the banding period with traps set for a single day at biweekly intervals. The doves are removed from the traps, at two to three hour intervals, a small band is placed and clamped around the leg and the bird is released.

It is a part-time activity that is fitted into the summer's schedule.

State and federal game managers, wardens and biologists do the banding. Each bander keeps careful records. Each band has an identification number and the words: Write F. & W. Serv., Wash., D. C., USA. For each dove banded he records the identification number, the age, the sex, the date, and the location of the site. A copy of this record is sent to the Migratory Bird Populations Station.

Most of the bands reported are recovered from doves harvested by dove hunters. But there are many non-hunters whose interest and curiosity result in the reporting of a band found on a dead dove's leg. Dove banders also retrap and report many banded doves, several to many months after their original banding date. It is the natural curiosity of the finder that makes the banding survey work.

The master dove filing and retrieving system is kept at the Migratory Bird Populations Station at Laurel, Maryland. The system has been modernized with data processing machines and computers to reduce the amount of time and effort required to store and retrieve information. Doves are only one of a large number of migratory birds that are banded and studied. Due to the large volume of bandings handled by the station there are still occasional delays at peak periods when a reported band requires several weeks to be processed before the information on banding location and date can be relayed to the finder.

The Dove Wing Collection Survey

The dove wing collection survey measures the productivity (or rearing success) of dove populations for each hatching season during the experiment. Rearing success is the ability of adults to raise immatures that survive to the hunting season. This survey will operate from 1967 through 1971 in the hunting states of the Eastern Management Unit. The survey is important because if the bag limit increase reduces spring dove breeding it will be necessary to determine whether the reduced breeding populations can increase productivity and return the fall populations to pre-experiment levels.

The survey requires a careful selection of names and addresses of dove hunters in the hunting states so that the information they submit will be representative of the Eastern Management Unit hunted populations. Each cooperative state sends a list of 500 dove hunters to the Migratory Bird Populations Station.

In Virginia names and addresses of dove hunters are obtained through a Game Survey Postcard Questionnaire. In this survey names and addresses of Virginia resident hunting license buyers are obtained from license files using an approved sampling procedure. The postcard questionnaire is sent to about 7500 Virginia hunters and from those who reply that they dove hunt, 500 are randomly selected and submitted to be included in the dove wing collection survey.

Shortly before the opening date of the dove season the Migratory Bird Populations Station mails dove wing collections envelopes with instructions to each state's list of dove hunters. The hunters are asked to cooperate in the survey and can do so by placing one wing from each dove harvested for a single day's hunting in an envelope and dropping it into the mail. Ten envelopes are originally sent each hunter with more available by request. The envelopes do not require postage and are pre-addressed to a collection point where envelopes and wings are kept in frozen storage.

State and federal wildlife biologists meet in Gainesville, Georgia, following the close of the dove hunting season,

usually in February, for an operation called a "wing bee." At the meeting biologists age the wings mailed in by the cooperating hunters. Techniques have been developed that make it possible to determine the age of a dove's wing by the appearance of the primary wing feathers and their coverts. The wings are sorted into three categories: wings from adult doves, those hatched one or more summers before the hunting season; wings from immature doves, those hatched the summer prior to the hunting season; and wings of unknown age, those that for various reasons cannot be aged. Immatures per adult ratios can be developed from this data to provide estimates of rearing success.

Approximately 20 percent of the hunters receiving envelopes cooperate by mailing back dove wings. Cooperation in this type of survey reflects considerable dedication by the dove hunter and the results obtained are to his credit. A high percentage of cooperation is not essential for an adequate measurement of production. In 1968-69 nearly 1500 hunters mailed over 25,000 wings in about 3500 envelopes.

The Call Count Survey

The call count survey will detect major changes in the breeding population levels. This survey is explained previously in this progress report. There are over 800 of these routes nationwide. In the Eastern Management Unit experiment there are over 300 routes that will serve as the basis for reflecting annual changes in mourning dove breeding population levels. The value of this survey has been discussed in other sections. If the survival rates and dove populations are reduced by the bag limit increase, this survey should detect this decrease, if it is a significant one, and provides an indication of the importance of the decrease upon breeding population densities.

A Brief Summary

For two baseline years, 1967-68 and 1968-69, the bag limit was held at 12 doves per day. For two consecutive years, 1969-70 and 1970-71, the bag will be increased to 18 doves per day with all other regulations unchanged. As this progress report is written, the experiment is half over and half unfinished.

For the two baseline years, data has been collected on hunter activity and harvest by the telephone survey. Dove survival (or mortality) and kill rates have been obtained from the banding study. The wing collection survey has allowed a measurement of the production of young birds (rearing success). And the call count routes have provided estimates of breeding population levels. This much has been done for two years with a 12 dove bag limit. Now the exact same effort is required for the next two years, with a bag limit of 18 doves.

After the Experiment

Basic investigations of mourning dove life history and ecology have been relatively few and much knowledge is lacking. The agencies responsible for mourning dove management need objective and accurate facts with which to make decisions. Obtaining these facts requires money and time, so that many different studies are needed over a long, continuous period to achieve full understanding of dove biology. The present experiment is not the beginning, nor the end; it is merely one of the steps on the stairs to scientific dove management. With the knowledge that is obtained through a long term and well planned dove research program, the mourning dove can be maintained in a healthy and productive state which will provide continued good hunting and other kinds of enjoyment that man derives from this species.

Streaming (Continued from page 10)

snail and a two-inch salamander. There are 135 kinds of salamander in the U.S.A. and ours was yellow with two stripes running laterally from eye to tail—a black stripe paralleled by a white one. Ours was the Northern two-lined salamander of the brook family, one of several families in existence.

Other noteworthy inhabitants we exposed were the larva and nymph. At first glance we confused the nymph—we caught two types, stonefly and mayfly—with the baby crayfish. But discovering no claws on these forms, we realized we had a different type of life. We also uncovered the common grub (great crappie bait), which is nothing more than a larva. Larva are worm-like creatures. On one end they carry hook-like appendages used for anchoring themselves to rocks in rapidly flowing water. Nymphs and larva are underwater immature forms of insects-to-be. As adults they have become flies, beetles and other land forms. This change is called metamorphosis. Our nymphs had plate-like torsos, segmented thoraxes and antennae.

A more apparent denizen of the streams, found in quiet eddies, is the water strider, which, by its name, skims over the water's surface with facility, especially when someone is trying to put him into a jar. Another surface traveller is the oval-shaped whirligig beetle. He spins around, dizzily going about his business. If bothered or threatened, this insect emits an apple-seed like odor.

These are just representative of the many varieties of fauna one finds around moss-covered boulders and in the crevices of brown rocks eroded by the swirls of the gurgling, slurping, ceaselessly boiling, downward pulling medium called stream or creek.

It's another world, this intimate world of the miniature animate. We're caught up in this "streaming" like leaves in the tiny whirlpools we wade through. We never want to get out of its habit.

Our streaming produced crayfish in assorted sizes including one 5½ inch granddaddy, and numerous insect nymphs (top of photo) which we at first confused with baby crayfish.



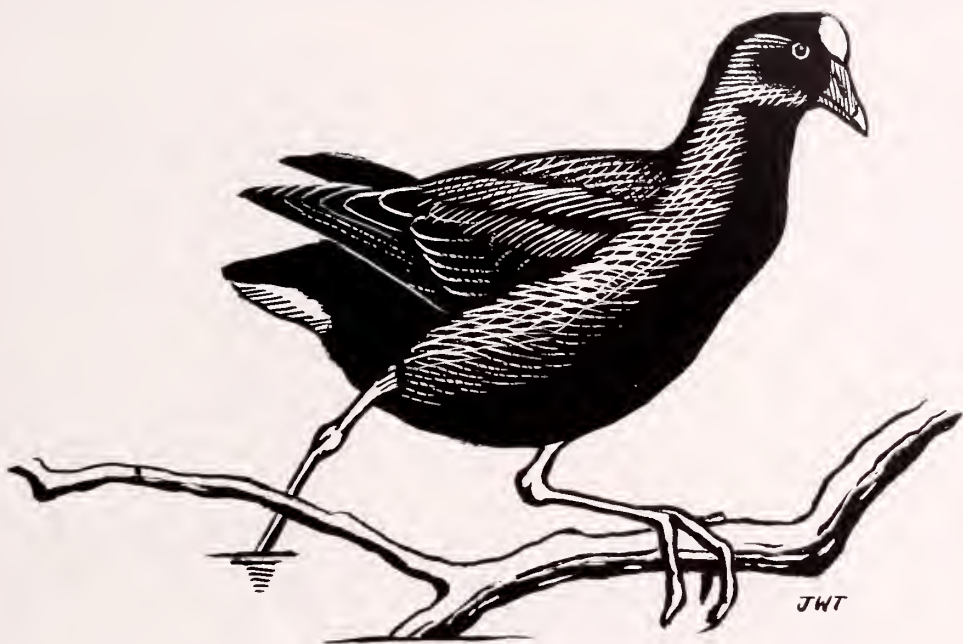
Editorial (Continued from page 3)

accusation is not only wrong, it misses the point. The burdensome recordkeeping relative to sales of sporting type ammunition has not prevented a crime, nor led to the arrest of a criminal, nor contributed to a conviction to the best of our knowledge. We are informed now that after administering the Gun Control Act for some eight months, the Treasury Department is convinced that registration of persons buying shotgun, rifle, and .22 caliber rimfire ammunition is unnecessary and unrealistic. What has been accomplished, or soon will be, however, is the making of a pretty fair record of the gages and calibers of all sporting firearms in active use together with the names and addresses of their owners, in spite of the fact that in passing the very law under which this has been done Congress quite clearly rejected gun registration.

Many Senators and Congressmen have spoken out about the abuse of the regulation writing authority which was delegated by the 1968 Act. Senate Majority Leader Mike Mansfield's comments were typical when he stated that in his judgment the Internal Revenue Service's regulations are an unnecessary burden and a deceptive "back door" form of gun registration, and that the regulations are not in line with the intent of Congress at the time the bill was passed. Legislation is under consideration which would give considerable relief by exempting rifle, shotgun and all .22 caliber rimfire ammunition from the onerous recordkeeping requirements. In commenting on one such bill which he introduced, Senator Robert Bennett of Utah said:

"Many of our sportsmen have not yet undergone the experience of purchasing ammunition under the present law. I predict that if we do not enact this before the fall season begins, we will hear from the law abiding, legitimate gunowners as never before."

Very likely he is right. The Virginia Commission of Game and Inland Fisheries is on record as strongly endorsing the kind of legislation Senators Mansfield, Bennett and many others have in mind.—J.F.Mc.



Bird

of the

Month:

Purple Gallinule

By DR. J. J. MURRAY
Lexington

GALLINULES belong to the *Rallidae*, to which family the rails and coots also belong. Two gallinules occur in Virginia, the common gallinule, formerly known as the Florida gallinule, and the purple gallinule. The common gallinule is a more northern bird. While it has occurred rather often in Virginia we have only a few records for the purple gallinule.

Dr. William C. Rives, who back in 1890 wrote *A Catalogue of the Birds of the Virginias*, had several records. Mrs. A. C. Reed saw one in Pungo Marsh, May 17, 1938, and Jack Perkins picked up one on Back Bay beach, May 19, 1916. Dr. Ruskin Freer reports one seen on May 2, 1951, at Timber Lake, Lynchburg. The strangest record of all is that of a bird, of which I have the skin, captured on South Buffalo Creek near Lexington and brought to me on May 16, 1940.

The purple gallinule is one of the most beautiful of our water birds. Only the male wood duck can compete with it for first place. It is 12 to 14 inches long, about the size of a

coot. The head and neck are deep purplish-blue. The back shades from bronze to green. The bill is red, with yellow tip. There is a bluish shield on the forehead. The legs are yellow.

Both gallinules are marsh birds. They are able swimmers, but they usually prefer the marsh grass and water weeds, where they can easily hide. They are poor flyers, usually preferring to swim. When they take to the air, they travel with hanging legs.

The food of the purple gallinule is taken from the water. It consists of worms, snails, insects, and crustaceans, and seeds and other vegetable matter from the water. In general, it is certainly beneficial to the interests of man.

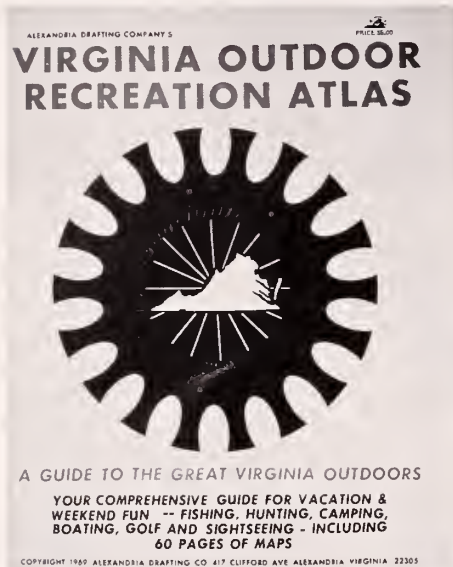
The nest is made in thick patches of high growth in the water. In fact, this bird's whole life is tied to the water. Five to ten eggs are laid, cream-colored and lightly spotted about the larger end.

The young birds leave the nest almost as soon as they are hatched, being able to swim well as soon as their down is dry.



Edited by HARRY GILLAM

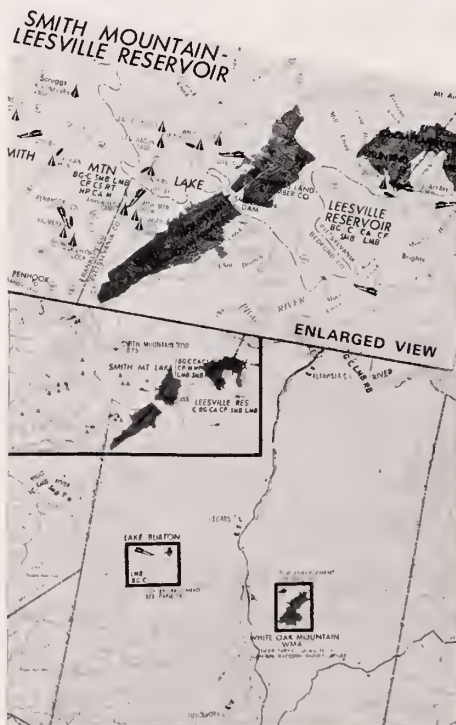
New Recreation Atlas Available



A unique new "Virginia Outdoor Recreation Atlas," the most complete reference on Virginia Recreation Areas and very possibly the only one of its kind in the nation, has just been completed by the Alexandria Drafting Company. The 100 page publication contains 60 pages of beautiful full color maps measuring 10½ by 14 inches which show Virginia's wildlife management areas, parks, lakes, fishing waters, campsites, stocked trout streams, boat launching ramps, airports, golf courses, national forests, recreation areas, cooperative hunting lands and just about any other information a recreationist might seek. Intensive use areas such as reservoirs, parks and wildlife management areas are shown enlarged on separate pages with all internal roads, trails and recreational facilities. The basic maps are 1:250,000 scale and include slightly more than one county per page. Virtually all paved roads in the state are shown and the blowups of intensively used areas show all pertinent roads and trails. The enlarged maps of hunting areas include the contours which are an aid to the hunter in unfamiliar territory. All warm-water fishing streams and lakes are shown with detailed information on the types of fish they contain. Stocked trout streams are delineated on the map for

easy location. Enlarged sections show how to reach each public boat ramp. Many of the facilities shown have never before been mapped and never before have all been condensed into such a compact, easy to use reference.

The text which accompanies the Outdoor Recreation Atlas includes a wealth of information on hunting, fishing and recreation areas. Listings of campgrounds, marinas, boat landing ramps, charter boats, and golf courses include phone numbers and detailed information on facilities at each. Information on hunting and both fresh and saltwater fishing includes how to do it, where to go and when to go. Special regulations are listed for areas where they apply including how to get permits to hunt and fish on many private lands and waters. The Virginia Outdoor Recreation Atlas may be obtained by sending \$5.38 in cash, check or money order to the Alexandria Drafting Company, 417 East Clifford Avenue, Alexandria, Virginia 22305. Actual samples of inside pages will be furnished on request. **Do not send orders to the Game Commission.**



Virginia Anglers Score in Carolina



Orson C. Warren of Front Royal and Kyle Cole of Independence each made outstanding catches recently in North Carolina coastal waters. Cole is shown with the 7 foot 75 pound white marlin he caught off Morehead City. Warren's catch was a 19 pound bluefish taken off Oregon Inlet. This is larger than the Virginia record of 18 pounds 4 ounces, making it perhaps the largest blue ever caught by a Virginian. Warren is standing at the left in the top photo.

Day's Fox Catch



D. W. Roberts of Richmond displays one morning's catch of five foxes trapped near a Game Commission pheasant release site in eastern Virginia.



Edited by ANN PILCHER
Feed for Birds

1969 All State Rifle Teams



Courtesy King George News

John I. Kent shows Roger Peyton how to scatter wildlife seed mixture while Alvin Peyton looks on from tractor. The boys assisted State Trooper Kent in planting the mixture, plus soybeans, black-eyed peas and lespedeza along hedgerows on four area farms. Game Warden Donald E. Zepp brought them Game Commission furnished seed for the project, to provide feed for wild birds during winter months. The boys are sons of Mr. and Mrs. Conway Peyton of Owens, and along with Trooper Kent are avid bird hunters.

Happy Times . . .

. . . for these anglers:

Stuart Lee, Hopewell teenager, whose July 4th 454 lb. 4 oz. catch broke the state blue marlin record by 102 lb. 12 oz.

The grandson of Game Commissioner A. Ree Ellis—Ree Edward Ellis, 10, of Richmond—who caught a whopping 34 pound channel bass in Chesapeake Bay while fishing from his father's cruiser, Fishing Fool.

Wayne Lee Taylor, 5, of Blackstone, who caught a 4¾ pound bass while waiting for his father to rig him up a cane pole. The youngster took his daddy's spinning rod, flipped a red worm into the water and hooked the big bass.

Steven Epperly, 6, of Staunton, whose Augusta County trout catch, taken near

Blow Struck for Cleaner Outdoors

Through combined efforts of the Commission of Game and Inland Fisheries, State Police, State Division of Forestry and Wesley Chapel 4-H Club, this anti-litter sign was erected in late spring at Narrow Passage Creek road near Woodstock as part of a countywide beautification program in Shenandoah County. Shown in the picture are Mrs. Ralph George, club sponsor; Ivan W. Coffelt, Va. Division of Forestry; Pam Wolverton, 4-H club member; Mike Cook, club member; State Trooper R. E. Pugh; Ronnie Rau, club vice-president; Jama Estep, club president; Mr. and Mrs. Weldon Miller, club sponsors, and Fred W. Hottle, Game Warden.

Photo Courtesy Northern Virginia Daily



John W. Courtney, Jr., Virginia State Rifle and Revolver Association Vice President in charge of College and Junior Activities, has announced the Association's selection of 1969 All State Rifle Teams: COLLEGIATE—(all V.M.I. students) Robert Edwin Duncan, Atlanta; William James McKelvey, Belleville, Ill.; Donald O'Hara Nuttall, Bon Air, Va.; Wayne H. Scholtes, Huntington, W. Va.; Raymond Walter Ihlenburg, Virginia Beach, Va. SCHOLASTIC—Ray A. Carter, Alexandria (Fort Hunt H. S.); Mary M. Keys, Springfield (St. Mary's Academy); Frank Sweeney, Alexandria (Fort Hunt H. S.); Nancy Carpenter, Alexandria (Fort Hunt H. S.); Thomas Sutton, Arlington (Washington and Lee H. S.). McKelvey, Carter and Keys are veterans of '68 All State Teams.



Billy Hart, 14, of Poquoson, took this 11 lb. 2 oz. largemouth bass from Harwood Mill pond. Length of the York County bass is 24 inches; girth, 21 inches.

Craigsville, consisted of a half dozen rainbows, from 13 to 15 inches.

Tommy Boardwine, of Pounding Mill. The Richlands High School senior took a 13 lb. 9 oz. muskellunge in May from New River near Narrows. The 36 inch musky went for a branch minnow bait and was taken on 15 lb. test line.

Five-year-old Ricky Knick's first catch turned out to be a 13½" rainbow trout from Simpson's Creek near Longdale, east of Ricky's home in Clifton Forge, Alleghany County.



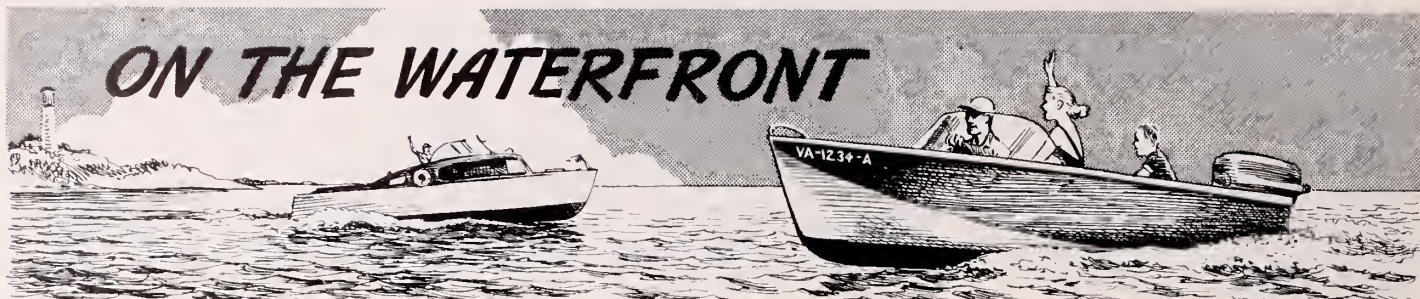
Forestry Camp at Holiday

One hundred one boys attended the 24th annual Boys' Forestry Camp in June at Holiday Lake on the Buckingham-Appomattox State Forest. Professional foresters from the pulp and paper industry and the Virginia Division of Forestry, and a game biologist from the Game Commission handled instruction. Courses included forest fire control, timber harvesting, wood preservation, timber measuring and marketing, forest management, tree identification, forest insects and diseases, and wildlife management. Counselors were vocational agriculture instructors provided through the State Department of Education.

Holiday Lake Camp is financed by Virginia pulpwood-using industries, sponsored by the Southern Forest Institute and managed by the Virginia Division of Forestry. Industries supporting this year's camp included Union Camp Corporation. The Chesapeake Corporation of Virginia, Continental Can Company, Glafelter Pulp Wood Company, Mead Corporation, Owens-Illinois and Westvaco Corporation.

Jack Raybourne, Game Commission wildlife biologist, Eugene Kegley, George Wythe High School student from Wytheville, and S. T. Terry, vocational agriculture instructor at Hillsville High in Carroll County, examine a bear skull at Forestry Camp.





Edited by JIM KERRICK

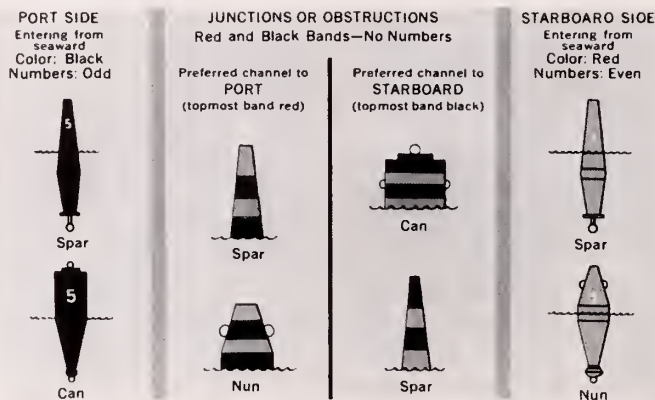


Photo courtesy Evinrude Motors

Boatmen should learn to distinguish the shape and markings of navigational buoys to make their trips safer and more enjoyable.

Road Signs for Boatmen

Learning to recognize the meaning of road signs by their shape and the messages printed upon them is basic for every automobile driver. So, too, should boatmen learn to distinguish the shape and markings of navigational buoys.

Buoys have numerous uses. They mark channels, underwater obstructions, shoals and other hazards to navigation. The meaning attached to each buoy is indicated by its shape, color, number and arrangement of stripes. Some states and municipalities use various methods of marking inland waterways, though most follow closely the standard system used on federal waters.

There are four basic types of buoys in the federal system. These are nuns, cans, lighted buoys and sound buoys (gong, bell, whistle). Long, slender buoys, called spars, are sometimes used in place of nuns and cans.

It is more important to remember the color of the buoy, or its light, than the shape. Red buoys, always marked with even numbers, indicate the starboard, or right, side of the channel. Black buoys, carrying odd numbers, indicate the port boundary of the channel.

An easy way to remember, upon entering a waterway from seaward, is to always keep the red buoys on the starboard side. These are the basic three R's of piloting—"red right returning." In other words, always keep the RED buoys on your RIGHT when RETURNING from sea.

Light and sound buoys may be painted either red or black, depending on their use. They are sometimes combined into lighted bell buoys. The sound buoys are to help navigation in poor visibility, lights to facilitate traveling the waterways by night.

By the same rule, lighted buoys that indicate the starboard side of the channel show red lights, or sometimes white. Lighted buoys that signify the port side of the channel are usually green or white. They may be either fixed or flashing lights. These buoys are identifiable by what are known as their "characteristics." By this is meant the type of flash and the frequency of the flash.

Combination red and black horizontally striped buoys mark channel junctions, or obstructions. They may be passed on either side. However, if the top stripe is red, the preferred channel is to port, and if black, the preferred channel is starboard. Vertical striped black and white buoys mark mid-channel points and may be passed on either side.

There is nothing very difficult about the system. A boatman venturing onto waters marked with the buoy system for the first time should study the meaning of the buoys, and then heed them, just as he would road signs. Remember, the buoys are put there for a purpose.

Boating is a sport on the move. Learning the "boating road signs" is only a matter of common sense.

Wake Making

Newcomers to the boating fraternity should remember that wherever they go their boats send appreciable wakes rolling over the surface of the water behind them.

This is particularly important in view of the current upsurge in popularity of boating, a groundswell that is growing into a tidal wave with each passing year.

Wakes show up most noticeably, and do the most mischief, on the calm waters of channels, lagoons and mooring areas. Aside from the dictates of common sense and courtesy toward others, boatmen should realize that the law holds them responsible for damage caused by the wake of their boats.

The average outboard boat is going to make its heaviest wake when moving at a speed just below planing—six, seven or eight m.p.h. When moving very slowly it makes practically no wake at all, and when planing swiftly and cleanly over the water it makes a surprisingly small wake, because only the surface water has been disturbed.

The best practice is to observe the wake your boat makes at various speeds and with widely varying loads. While running at the speed which creates the biggest wake, stop, and note how far ahead and to the side this wake will travel.

Some harbors you enter will have "No Wake" signs or buoys posted to slow boating traffic. Not only is it hard to judge boat speed so precisely, but your wake may still be objectional at such speeds. So consider your own boat's wave-making characteristics in choosing a speed, with the objective of avoiding a wake creation which might cause trouble to nearby persons or boats.

Americans Become Two-Boat Families

Many American, pleasure boating families are expanding their fleet. According to industry surveys, there's a noticeable trend toward purchasing a small car-top fishing rig as a "sister ship" to the family runabout.



KILLER NUMBER 1038

Meet Mrs. L. Emmricke. She lives over on Bixford Avenue about three blocks from the Cherrylyn Jr. High School with her husband Ralph, their daughter Terry Lea, age 4, and son Ralph Jr., age 13.

Mrs. Emmricke (her husband calls her Dottie) goes to PTA every third Tuesday, plays bridge with the girls on Wednesday, shops on Friday and kills eagles on Saturday.

Yes, Mrs. Emmricke is a killer. She uses DDT in her mini-war against the bugs in her garden.

She doesn't know she's contributing to the extinction of our national bird, the bald eagle, and many other forms of wildlife. Nor does she know that some of that DDT will ultimately find its way into the bodies of her children, her husband and her neighbors.

Yes, by using DDT Mrs. Emmricke contributes to the death of more than just the bugs on her lettuce and Willamette Wonder tomato plants. She's a real killer.

How does *YOUR* garden grow?

From National Wildlife Federation *Conservation News*

**RD ANNUAL
WILDLIFE
ESSAY
CONTEST**

Endorsed By
THE VIRGINIA RESOURCE-USE EDUCATION COUNCIL
THE RESOURCE-USE EDUCATION COMMITTEE OF THE
VIRGINIA ACADEMY OF SCIENCE

WHAT

ENDANGERS

WILD LIFE

IN

VIRGINIA

CONTAMINATED

STRIP-MINING
the
tourist
trade

DESTINED FOR OBLIVION

POLLUTION, PESTICIDES,

Severe Weather Hits Area

IN PROTEST OF A DAM

do something.

GAME LAWS

Losses Exceed
5 Million Dollars

Deer Predation

1965
Heavy

Don't Kill Wildlife With Kindness

Swamp Drainage:

War on Thistles

WATER POLLUTION

RULES

8. School awards will be made for 100 per cent student participation.

PRIZES

- 1 High School Senior Conservation Scholarship \$1000.00.
 - 1 High School Senior Conservation Scholarship \$400.00.
 - 8 Grand Prize Awards, \$50.00 each, one to each eligible grade.
 - 8 Second Prizes, \$25.00 each, one to each eligible grade.
 - 24 Third Prizes, \$15.00 each, three to each eligible grade.
 - 24 Honorable Mention Prizes, \$10.00 each, three to each eligible grade.
- Special Mention Prizes, \$5.00 each, divided among eligible grades in proportion to response.
- School Awards.
- The Scholarship Winners and the Eight Grand Prize Winners will come to Richmond as guests of honor of the sponsors and will have their awards presented to them by the Governor. Others will be given their awards in their schools.